



Autopath

by **CGS Labs**



**SWEPTH PATH ANALYSIS AND
VEHICLE TURNING SIMULATION SOFTWARE**



SWEPT PATH ANALYSIS AND VEHICLE TURNING SIMULATION SOFTWARE

Autopath is a professional software solution for vehicle swept path analysis used by civil engineers, transportation professionals, architects, and urban planners. Autopath enables the simulation and analysis of vehicle maneuvers and more.

Autopath is distinguished by its carefully designed UI and workflow that make it fast to learn and easy to use. Competitive pricing, service for designing complex custom vehicles, and high-level technical support make Autopath the product of choice for professionals worldwide.



TRUSTED MOST
BY DESIGN PROFESSIONALS

FIELDS OF USE

CIVIL ENGINEERING

Autopath plays a key role in verifying the transportability of all types of road design projects: on roads, intersections, roundabouts, hairpin turns, underpasses, overpasses, and similar places. With advanced tools for swept path analysis and animation, it not only accelerates the engineering design process but also enables quick checking of alternative design options, as well as safety and compliance with standards.



SPECIAL TRANSPORT

Special transport services require specialized transport vehicles (semi-lowloader trailer, lowbed, mobile cranes, etc.) and tailored transport routes. Autopath includes an extensive library of specialized transport vehicles, all of which can be further customized in detail. You can design any type of vehicle outline that precisely represents the transported load. Autopath supports the use of Google Maps, Google StreetView, and OpenMaps, which is indispensable for evaluating different scenarios of transport routes. With support for all types of cranes, you can virtually plan the transport from factory, cargo port or freight terminal to the target destination.



ARCHITECTURE

Autopath provides easy-to-use tools for architects and urban planners for analyzing vehicle swept paths in a CAD environment. They can perform simple vehicle maneuvers, carry out turning simulations, and identify potential limitations in the design of garages, parking spaces, intervention routes, etc. With access to a large library of vehicles, architects now have a tool for swept path analysis with which they can accurately, confidently, and independently evaluate their designs.



INTRALOGISTICS

Autopath is a proven useful tool in the process of factory design. Using it, engineers can simulate the transportation of goods on the factory lanes as well as simulate AGV's (automated guided vehicles) or tugger trains for the transportation of goods on factory grounds. When designing warehouse-racking layouts, Autopath is used to check for possible forklift constraints, evaluate tugger trains' transportation paths, delivery vehicles maneuvers, and similar.



AVIATION

When designing airports, special care is taken to make sure that the airport can adequately service all aircraft, transport cargo, and passengers. That is why engineers, both in the design and operation phase of the airport, carry out various simulations of aircraft maneuvers, vehicle/airplane swept path analysis and check for potential collisions, thereby reducing security risks and ensuring smooth operation. To serve this purpose, Autopath comes with a predefined library of aircraft, as well as intervention and various other vehicles, and can customize vehicles if needed.



REFERENCES

KUKA

S Schroeder
& Associés

DVA
Legacy Design
Visionary Architecture

PORR

ADT
ADT OMEGA

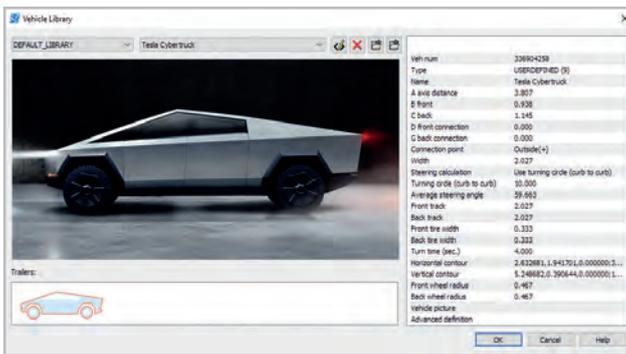
wyz

FEATURES



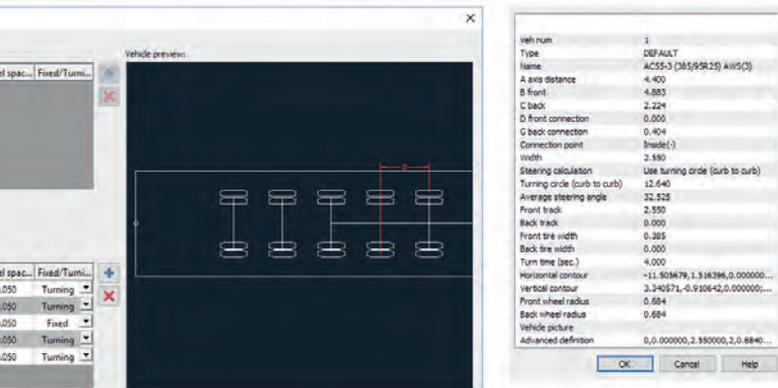
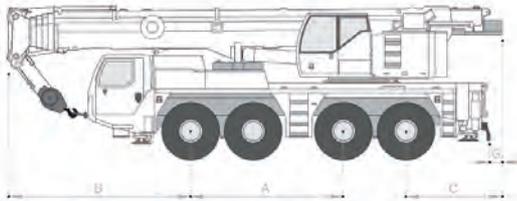
VEHICLE LIBRARIES BY NATIONAL GUIDELINES

Autopath comes with number or country specific reference vehicle libraries defined by national guidelines and an extended collection of real vehicles covering aircrafts, bus, cranes, emergency vehicles, trucks, agricultural machinery and more.



WE ARE CONSTANTLY ADDING NEW VEHICLES ACCORDING TO OUR CUSTOMER WISHES

| | |
|----------------------|---|
| USA / CANADA / INDIA | AASHTO 2014 (Imperial / Metric), AASHTO 2011 (Imperial / Metric) |
| CANADA | TAC 2017 |
| EUROPE | United Kingdom (FTA 2016, FTA 1998) Germany (Deutschland 2005) Austria (Österreich) Sweden (Sverige 2005) Norwegian (Norge 2007) Poland (Polska 2016) Hungary (Magyarország 2005) Czech Republic (Česko 2005) Croatia (Hrvatska 2001) Serbia (Serbia 2012) Slovenia (Slovenija 2006) Romania (Romania 1985) Macedonia Turkey (Türkiye) |
| RUSSIA | РОССИЯ |
| AUSTRALIA | Australia 1993, Australia 2013 |
| NEW ZEALAND | New Zealand 2007 |
| AFRICA | South Africa (South Africa 1988) |



DEFINE HIGHLY COMPLEX SPECIALIZED VEHICLES

CUSTOM VEHICLES AND SPECIAL TRANSPORTATION

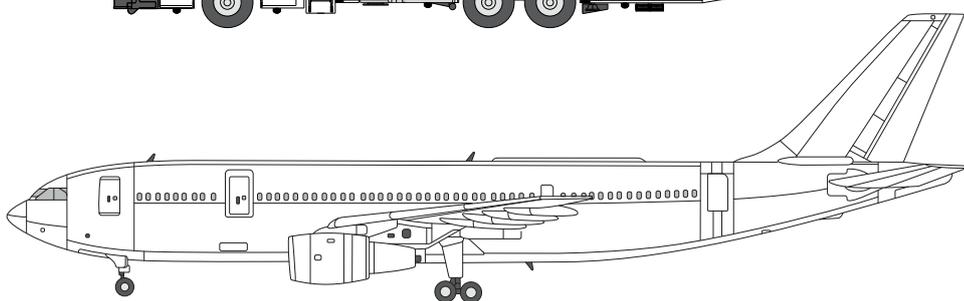
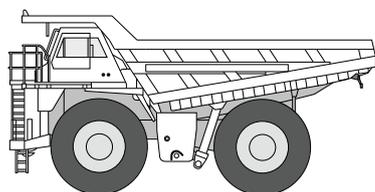
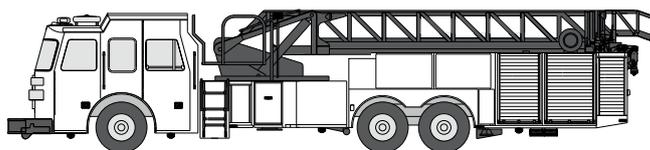
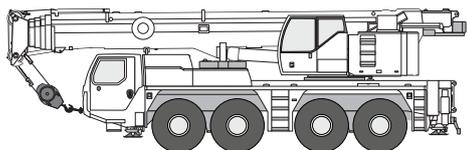
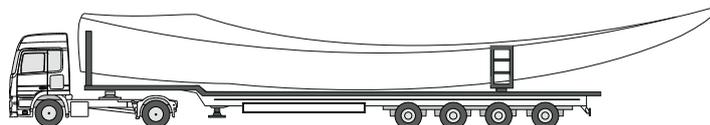
Autopath also provides extended vehicle customisation option enabling users to customize available vehicles in libraries provided.

Or create completely new vehicles with multiple axles, steering options and unlimited vehicle contour or shape definition.

Further options for horizontal and vertical vehicle contour design give users extended capabilities to define vehicles with high levels of details.

EXTENDED COLLECTION OF SPECIALIZED VEHICLES

In the latest version, Autopath gets an extensive number of vehicle libraries and utility vehicle types added to the existing vehicle list, vehicle types ranging from agricultural vehicles, emergency vehicles, buses, trucks, trailers for wind turbine transport, cranes, forklifts and many more.

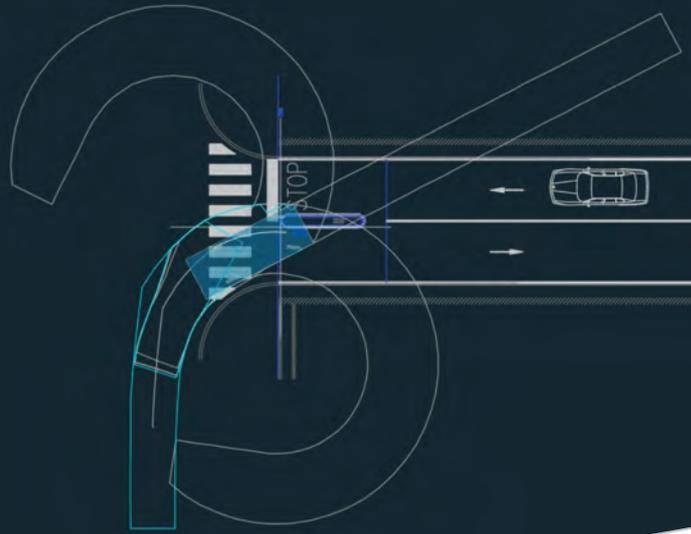


| | |
|------------------------|---|
| AIRCRAFT | Boeing 737-700, Boeing 737-400 |
| BUS | Ikarus, Kravtex, Man, Mercedes, Neoplan, Rába, Setra, Volvo |
| CRANE KATO | CR-100, CR-250, MR-130, NK-300E-v, NK550vr <ul style="list-style-type: none"> • we support vehicles with all wheels steering |
| CRANE LIEBHERR | LTM1030-2.1, LTM1040-2.1, LTM1050-3.1, LTM1055-3.2, LTM1060-3.1, LTM1070-4.2, LTM1090-4.1, LTM1100-5.1, LTM1100-5.2, LTM 1350-6.1 <ul style="list-style-type: none"> • we support vehicles with all wheels steering |
| CRANE TEREX | AC55-3, AC55-3, AC60-3, AC140, AC160-2, AC160-5, AC250-1 <ul style="list-style-type: none"> • we support vehicles with all wheels steering |
| CUSTOM | Wind Transport, Heavy Load Vehicle, Long Cargo Vehicle |
| EMERGENCY EUROPE | Mercedes Benz, Tatra, Man, Iveco |
| EMERGENCY AASHTO | Fire Vehicle - Pumper, Fire Vehicle - Aerial Platform |
| GOLDHOFER | Drop-Deck Semitrailer, Europe Flatbad, Flatbad with Pendular Axles |
| EMERGENCY SLO | PV-1, PV-2, GV-1, GVV-1, GVV-2, GVC-16/15, GVC-16/25, GV-16/24, GVC-24/50, AC, GVGP-1, GVGP-2 |
| TRUCK | Mercedes Benz, Iveco, MAN |
| CONCRETE MIXER | MAN TGS 41.420 8x4; ITAS CAS |
| AGRICULTURAL MACHINERY | Tractor John Deere 5603 4WD, Tractor Fendt 936 Vario, Tractor + Bailey Dumper DUMP10, Tractor + Bailey Grain Trailer TAG11, Tractor + Bailey Baby Trailer BR2.0, Tractor + Bailey Low Loader LOW 8/16 |
| PICK UP TRUCK | Ford Ranger, Toyota HiLux, Nissan Navara, Mercedes Benz X, Isuzu D-Max, Volkswagen Amarok, Mitsubishi L200, Ford F-150 |
| SUV | Audi Q8, BMW X7, Mercedes Benz GLS, Volkswagen Touareg, Volvo XC90, Land Rover Range Rover, Rolls Royce Cullinan |

SWEPT PATH ANALYSIS TOOLS

Using the Horizontal or Vertical Analysis feature, you can easily and quickly simulate vehicle maneuvers and check transportability. Autopath works in AutoCAD, Civil 3D or BricsCAD environments.

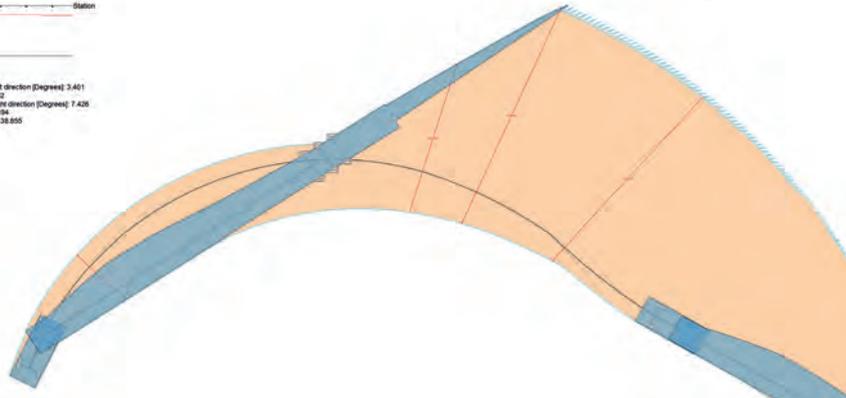
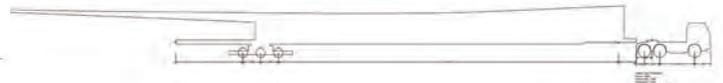
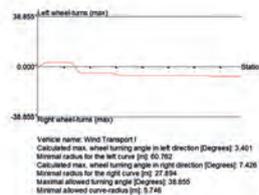
You can check for possible conflicts and inconsistencies of the vehicle path with other vehicles or with built objects. You can also create a steering wheel report – graphic diagram, presenting the intensity of rotation of the vehicle wheels along the vehicle path.



REPORTS

Autopath come with dedicated reporting capabilities for each swept path analysis made including vehicles names and types in use, including vehicle dimensions information plus steering wheel turning report showing turning angles, turn wheel on stop sections, maximal vehicle steering angle and more.

Export reports to PDF and other formats are supported.



GOOGLE MAPS & GOOGLE STREET VIEW

Autopath provides the option to insert raster Imagery and elevation data (Google Earth Surface data) and Street View capabilities within the CAD drawing to help clients, investors, or the interested public to visualize areas where swept path analysis is taking place.

Combining such data with CAD BIM infrastructural or architectural models offers immersive visualization capabilities and great value analysis. Autopath comes with an extensive list of supported coordinate systems worldwide to enable convenient data insertion.

FEATURES

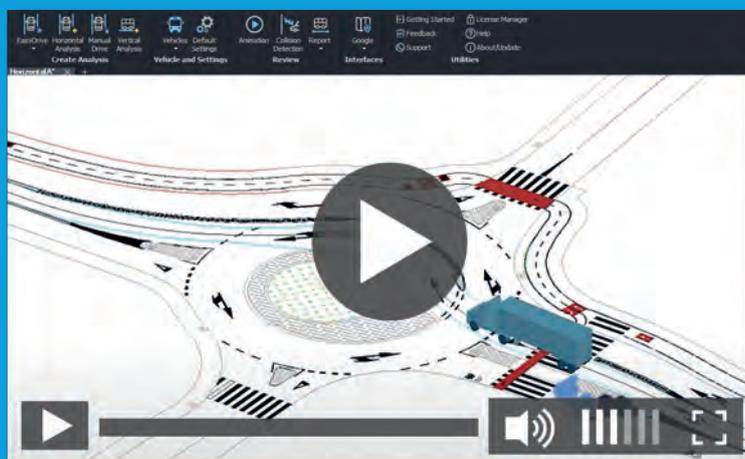
| | |
|--|---|
| Easy drive (dynamic horizontal vehicle swept path analysis with forward and reverse turn prediction) | ✓ |
| 2D Horizontal vehicle swept path analysis | ✓ |
| 2D Vertical vehicle swept path analysis | ✓ |
| Vehicle manual drive mode | ✓ |
| 3D animation of vehicle movement | ✓ |
| Detection of horizontal and vertical analysis clash points | ✓ |
| Vehicle Library | ✓ |
| Options for creating and editing Custom vehicles and Special | ✓ |
| Import of Google Maps geospatial data in CAD drawing | ✓ |
| Vehicle steering wheels diagram | ✓ |
| Draw vehicle profile with dimensions | ✓ |

AUTOPATH runs on top of 2018–2023 versions of Autodesk AutoCAD and Civil 3D as well as BricsCAD Pro, Platinum and BIM from V20 to V23. AutoCAD LT and BricsCAD Lite are not supported! Only 64-bit versions are supported!

GET STARTED WITH AUTOPATH



www.bit.ly/cgs-autopath



SUBSCRIBE TO BLOG

<https://cgs-labs.com/cgs-labs-blog/>



ABOUT CGS LABS

Laboratory of ideas, a software company engaged in the digitization of built and the natural environment.

CGS Labs is innovative software company with more than 30 years of experience developing solutions for the design, construction and maintenance of transportation infrastructure. Our applications promote openBIM approach and standardized IFC data exchange. We contribute to greater transparency, quality and cost-effectiveness of construction projects and support sustainable decisions.

01 SOLUTIONS FOR THE DESIGN OF CIVIL INFRASTRUCTURE

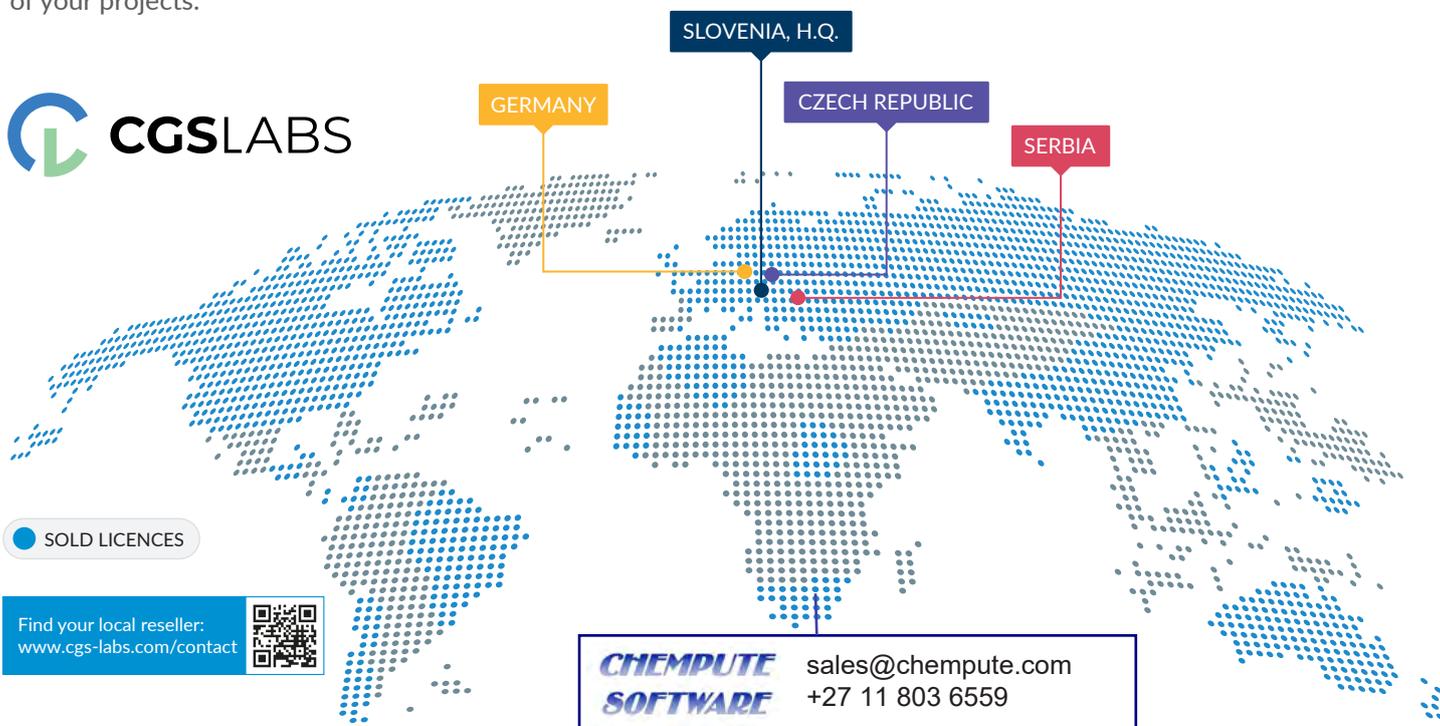
CGS labs develops specialized software solutions for the design of roads (Plateia, Autopath, Autosign), railways (Ferrovia) and channel - river engineering works (Aquaterra). Our software solutions incorporate local design standards.

02 CUSTOMER CARE & EDUCATION

We are not just a software vendor! Our goal is to successfully integrate CGS Labs solutions into your design processes. Our engineers help you get to the highest experience level for the use of CGS Labs software. Besides the always accessible on-line knowledge base, we organize traditional live customer trainings, as well as trainings per customer request, where we discuss selected topics according to the specific requirements of your projects.

03 TECHNICAL SUPPORT

Complete customer satisfaction is very important to us. If any problems should arise while using CGS Labs software, our team of experts is there to assist you, so your design process runs with minimum interferences or delays.



CGS Labs d.o.o.
Brnčičeva ulica 13
1000 Ljubljana
Slovenia

Phone: +386 1 235 06 00
E-mail: info@cgs-labs.com
Internet: www.cgs-labs.si

CGS Labs GmbH
Zeppelinstraße 14
61118 Bad Vilbel
Germany

Phone: +49 6101 9898955
E-mail: info.de@cgs-labs.com
Internet: www.cgs-labs.de

CGS Labs s.r.o.
Antala Staška 1012/37
Křč, 140 00 Prague 4
Czech Republic

Phone: +420 770 698 429
E-mail: info.cz@cgs-labs.com
Internet: www.cgs-labs.cz

CGS Labs doo
Braće Ribnikar 63A
21000 Novi Sad
Serbia

Phone: +381 21 300 47 02
E-mail: info.rs@cgs-labs.com
Internet: www.cgs-labs.rs